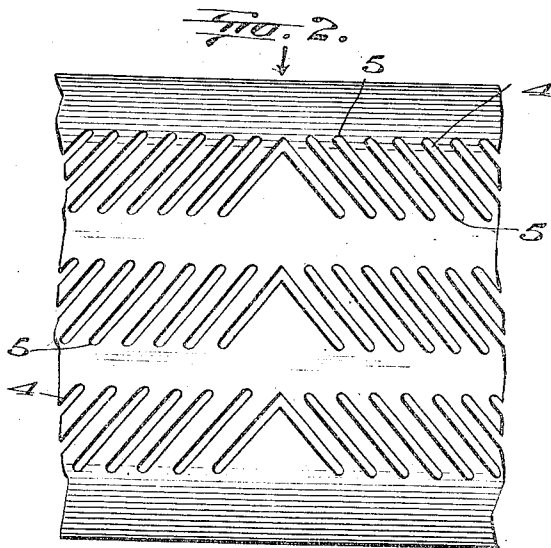
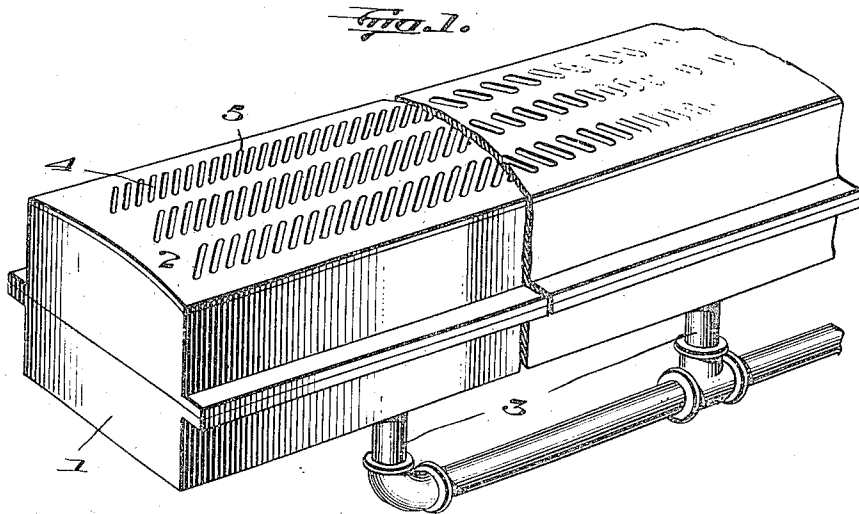


E. H. REYNOLDS.
 SUCTION BOX FOR CLOTH CRABBING AND EXTRACTING MACHINES.
 APPLICATION FILED OCT. 14, 1916.

1,236,359.

Patented Aug. 7, 1917.



Witnesses

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UNITED STATES PATENT OFFICE.

ELMER H. REYNOLDS, OF NASONVILLE, RHODE ISLAND.

SUCTION-BOX FOR CLOTH CRABMING AND EXTRACTING MACHINES.

1,236,359.

Specification of Letters Patent.

Patented Aug. 7, 1917.

Application filed October 14, 1916. Serial No. 125,685.

To all whom it may concern:

Be it known that I, ELMER H. REYNOLDS, a citizen of the United States, residing at Nasonville, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Suction-Boxes for Cloth Crabbing and Extracting Machines, of which the following is a specification.

My present invention pertains to improvements in suction means for use in extracting or crabbing machines for finishing woolen or worsted cloth; and it contemplates the provision of suction means calculated to extract practically all of the moisture from cloth subsequent to the drying of the same, and this incidental to the passing of the cloth over the suction means, and in such manner that the cloth is subjected to transverse stretching during its passage, but there is no liability of water marks being formed in the cloth or possibility of the cloth being caught in the apertures of the suction means when drawn into said apertures by the suction. This latter will be appreciated as important when it is stated that when caught in the apertures of suction means extant, cloth is frequently materially damaged and deteriorated in value. With the foregoing in mind, the invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a broken perspective illustrative of my novel suction means.

Fig. 2 is a broken plan view showing, on an enlarged scale, the transverse central portion of the apertured plate which constitutes the important feature of the suction means.

Similar numerals of reference designate corresponding parts in both views of the drawings.

Among other elements my improvement comprises a suction box 1, equipped with an apertured plate 2, over which it is designed to pass the cloth, from which the moisture is to be drawn, in a line at right angles to the length of the box. Leading from the box 1 are conduit connections 3 which are designed to be connected with the suction-creating means (not shown). The suction box 1 is preferably formed by two superimposed sections which may be readily taken apart for cleaning, and the plate 2

is suitably secured on the uppermost section of the box.

In accordance with my invention the plate 2 is provided with a plurality of apertures 4, in the form of narrow slots having curved ends 5, and the said slot-like apertures are distributed over the portion of the plate intended to be traversed by the cloth from which the moisture is to be removed. It is also to be understood that in accordance with my invention the slots at one side of the transverse center of the plate are diverged with reference to the slots at the opposite side of said center and the direction in which cloth is passed over the plate, this arrangement being advantageous inasmuch as the suction causes the cloth to protrude into the slots, and by reason of the travel of the cloth in the direction indicated and the inclination of the slots the protuberances will be forced to follow the slots and thereby lateral stretching of the cloth will be brought about.

It is essential that the slots 4 be very narrow, and also that the slots be provided with the rounded or concave ends or end walls 5 before referred to. The narrowness of the slots is practically advantageous inasmuch as the same precludes the formation of water marks in the cloth if for any reason the passage of the cloth is interrupted for a short period during the withdrawal of moisture from the cloth. This is also due in a measure to the fact that the narrow slots are closely arranged throughout the area of the plate portion traversed by the cloth.

The concave end walls 5 of the slots 4 are advantageous because they avoid the possibility of the cloth being drawn into and caught by any portions of the slot walls, as is the case when the slot walls include angular corners. Manifestly the elimination of the liability of the cloth being caught during the process of extracting the moisture, precludes damage to the cloth, and assures the same being in a marketable state after it is subjected to the moisture extracting action.

While I prefer to arrange the slots 4 as shown in Fig. 2, said arrangement is not necessary provided the slots at one side of the transverse center of the plate are diverged with reference to the slots at the opposite side of said center and the direction in which cloth is passed over the plate.

As illustrated in Fig. 1 the plate 2 is slightly concavo-convex in cross-section, but this is not of the essence of my invention and I therefore do not desire to be understood as
5 confining myself to the same.

Having described my invention what I claim and desire to secure by Letters-Patent, is:

10 1. A suction box for use in machines for extracting moisture from cloth, having a plate in which is a plurality of slots provided with concave end walls; the slots being arranged at intervals throughout the
15 area of the plate, and the slots at one side of the transverse center of the plate being diverged with reference to the slots at the opposite side of the transverse center, and the direction in which cloth is passed over the plate.

20 2. A suction box for use in machines for extracting moisture from cloth, comprising lower and upper superimposed and separable sections, and a plate secured on the upper section and having a plurality of slots

provided with concave end walls; the slots 25 being arranged at intervals throughout the area of the plate, and the slots at one side of the transverse center of the plate being diverged with reference to the slots at the opposite side of said center, and the direction
30 in which cloth is passed over the plate.

3. The improved plate for the suction box of a machine for extracting moisture from cloth provided with narrow slots with concave end walls; the said slots being arranged in series with all of the slots of a series in parallel relation, and the slots at one side of the transverse center of the plate being disposed oppositely inclined to the slots at the opposite side of said center. 40

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ELMER H. REYNOLDS.

Witnesses:

EDGAR L. SPAULDING,
ARSENE LE PAGE.